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the Cannon

October 5, 1998
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Celebrating 125 years of engineering

AN OFFICIAL NEWSPAPER OF THE UNIVERSITY OF TORONTO ENGINEERING SOCIETY

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F!rosh Week in Retrospect

Struan Vas
ELEC 0T0

Yet again Engineering showed the rest of the university what spirit and Skule™ pride was all about with our week of fun and general silliness, F!rosh Week. Now for you poor souls who happened to miss the biggest week long party of the year, I will proceed to recap the highlights in a Reader Digest's manner (I'll keep it short, ye of little attention spans);

Tuesday

8:00AM Con-Hall - Jump up and down ... You get the picture.

3:00PM Engineers take Toronto - Shoppers in the Eaton Centre stared in confusion and amazement as a blizzard of f!rosh and f!rosh leaders (some covered in gratuitous amounts of purple) marched through filling the air with "Let Me See Your Alligator!". The oh-so blistering heat of the day caused the crazy (and slightly frozen) Engineers to descend on the fountain at Nathan Philips. The brisk waters of the cool and slightly putrid fountain took on a purple tint as the f!rosh and their leaders proceeded to hydrate themselves. Most went willingly... some needed to be helped (sorry Sandra! J).

Wednesday

9:00AM TPT - Silly F!rosh!

8:00PM < "sometime" < "very late at night" F!ROSH NITE - The craziest, most swingingest party of the year (sorry about the lineup). That's the bulk of what I remember besides something about being on a very high moving stage throwing posters, thinking, "This isn't very safe... Oh well...".

Friday

6:00 PM – 12AM the next day Hart House Farm - Never before in 125 years of SkuleÔ have more than 125 Engineers partied at Hart House Farm at the same time. It rocked!

Saturday

9:00PM –12PM Fact finding - Lots of facts and sweet lobster were discovered (That's all I can say without being arrested).

All in all, F!rosh week went well, with a couple incidents here and there. I was very impressed by the enthusiasm level of the f!rosh this year (an obvious function of the efforts of the leaders), which has superseded any of the other f!rosh years that I can remember. Now as you're discovering purple dye in too many orifices ... remember, the fun doesn't end with F!rosh week ... so get involved!

No alcohol was harmed in the writing of this article (although some of it did go down smoothly).

Engineering Society's Auditor's Report

To the Members of The University of Toronto Engineering Society

We have audited the balance sheet of The University of Toronto Engineering Society as at May 31, 1998 and the statements of revenue and expenses, changes in fund balances and changes in financial position for the year then ended. These financial statements are the responsibility of the Society's management. Our responsibility it to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. And audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes addressing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

The organization derives certain revenues from specific functions, the completeness of which was not susceptible to satisfactory audit verification. Accordingly, our verification of these revenues was limited to amounts recorded in the records of the organization and we were not able to determine whether any adjustments might be necessary to revenues, excess of revenue over expense, assets and fund balances.

In our opinion, except for the effect of adjustments, if any, which we might have determined to be necessary had we been able to satisfy ourselves concerning the completeness of the revenues referred to in the preceding paragraph, these financial statements present fairly, in all material respects, the financial position of the organization as at May 31, 1998 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.

Toronto, Ontario
July 30, 1998

McGown, Sinclair and Associates
Chartered Accountants

Continued on page 3

the Cannon

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Established in 1977, *The Cannon* is a monthly publication of the University of Toronto Engineering Society, with a circulation of two thousand five hundred copies throughout the University of Toronto St. George Campus. The mandate of *The Cannon* is to publish information that is pertinent to the interests of the engineering student body.

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Please Note
The Cannon is a medium through which undergraduate engineering students can express their opinions. The views expressed heirein are those of the author and do not necessarily represent those of the editors or the Engineering Society unless so indicated.

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Editorials & Opinions...

From the Editor
Arnold Choi

Microsoft Isn't So Bad

It's so easy to jump on the anti-Microsoft bandwagon. It's fun to harass the rich kid on the block. The term "corporate monopoly" invokes a sort of programmed defence reflex, making it easier to just agree rather than to think. "Too much power is not a good thing." Billy Gates simply makes too much money....

...Microsoft writes bad programs.

If you've taken a computer course, you'll probably agree that Microsoft's boastful philosophy of having more lines of code, is *not* a good thing. You'll probably agree that their inefficient and complex style of programming inherently leads to the inevitable Patch. Microsoft seems to break all the rules of etiquette when it comes to good programming. Their programs are huge. They require constant computer upgrades. They're slow. Buggy. Crash-prone. Planning for efficient algorithms, debugging and streamlining code, maximizing output speed and minimizing hardware requirements – *that's* the name of the game. *That's* what good programming is all about. Isn't it?

How about usability? How about an intuitive design which provides the user with minimal hassles, and/or training time to get familiar with the details of the program? How about providing an interface that gives the user all the tools required right there at his or her fingertips, without having to look through a 200-paged manual?

In today's market, most major industrial companies develop their own software to help automate and enhance the services they provide. Take for example, any automotive manufacturing company or designers of medical supplies and equipment. They provide their customers with systems that use computer software to aid them in implementing their equipment. The company I work for now purchases automated equipment from suppliers to help increase output and efficiency. Naturally, these equipment come with fabulous, custom-made programs, already installed on computers. It was disappointing to see however, that although the program was capable of running on a 486 machine with 4 megs of ram in Windows 3.1, and although the setup disks came on only three 1.44 MB disks, the usability of the software was next to nothing. Any hope of learning how to use the software without studying the manual, or understanding the layout and terminology used in their menus, dialogue screens, and buttons, was beyond me. The general layout was very poor. Once you figured out how everything worked, and learned the lingo, the program did what it was supposed to do and got the job done. But only after.

This program could have been written a hundred different ways that would have made it so much better and easier to use. Sure, it had a graphical user interface. Sure it had an on-line help menu. But I didn't understand how *it* worked, and I shouldn't have had to. Software applications are supposed to be designed so that fools like me can use it. After all, aren't computers supposed to make jobs easier? Faster? If I have to waste time learning how the thing works and wonder why it wasn't designed another way, what's keeping it from sharing a nice damp corner in the bottom of my garbage can with the rest of the trash? Why not find another supplier that writes better programs? Indeed. Perhaps it's because they're the only ones that write that particular program. *They're* the ones with the monopoly. They're the ones forcing customers like me to waste time on training how to use their crapola programs for a premium price. They're the ones forcing people like to me get accustomed to the awkward terminology in their programs, and to learn the unintuitive graphics they use to "help make things easier to remember".

It should be noted that lousy programming was not exceptional to this one company. Nearly all the applications that were being supplied to us reeked of horrendous user-friendly interfaces. It wouldn't surprise me if the majority of software developers and computer programmers out there in industry, produced similar, rotten-type applications. Why should I be? Students are taught how to be more efficient at streamlining code and teachers are concerned with students developing better algorithms. Rather than emphasizing the importance of usability and understanding how to produce programs that let the user interact witb it more efficiently and with ease, most of the time spent in class is on how to achieve an efficient algorithm. In the computer courses I've taken, I've written programs that have helped me do calculations quicker and solve problems. But I never once considered what would happen if someone else were to use it. I never thought about whether some stranger off the street, interested in temperature gradients in multilayered surfaces would be able to use my program without referring to a user manual (which didn't exist) or asking me how to use it. I was never taught to. Of course, I'm not a computer engineer/scientist, so my background in software development is quite limited. But when I see the programs that are being developed by corporations other than the huge software giants like Microsoft, Corel, Adobe etc., (and there are many, many more smaller ones than big ones), I have to wonder, perhaps there is a reason why Microsoft, Corel and Adobe are racking in the millions of dollars in cash. Perhaps these guys aren't such bad programmers after all.

It was a welcomed relief when Microsoft's familiar splash screen popped up on my monitor, after a frustrating session on a supplier supplied application. It assured me that, "Yes, our programs might be inappropriately huge and yes, you may need to upgrade your computer sooner than you expect, but at least you'll be able to *use* our software. At least you'll be happy." That's when I realized that perhaps Microsoft wasn't quite the monster we all liked to hate. I for one agree that Microsoft software engineers don't abide by conventional rules of "keep it simple stupid". But I find their efforts to develop software for "dummies" quite appealing. The fact that their size and power allows them to produce programs that anyone can use, is more favourable to me, than having to deal with a program that knows nothing about what I want. Although I agree that efficient coding is extremely important, in the end, I want an application that understands what *I* need. Perhaps *that* is what good programming is all about.

English As A *First* Language

Joel S. Ironstone
ECE 0T1

I have decided not to go to my math tutorial. I know that it will be of no use to me. I usually attend my tutorials. I have questions; I want them answered.

This is not likely in my math tutorial.

I asked a question, and my tutor didn't understand. I repeated it, and gestured wildly. He started to nod and answered a completely different question.

I didn't understand him.

We can't communicate.

I know that there is some minimum language requirement in order to enter graduate school from abroad, but it is obviously not a high enough standard. There is no doubt that my tutor is a brilliant mathematician and a promising scholar, but he is a bad teacher. *He cannot speak english.* The purpose of a teacher is to communicate and render more lucid the concepts studied in the course. He should enlighten us, not force us to strain and decypher his mismatched grammer. Even if he had trouble speaking, I wouldn't mind so much if he understood my questions. What use could he possibly be to me in class, if I can't understand him, and he can't understand *me*? There must be dozens of english-speaking graduate students looking for teaching positions - why hire him? At least offer him some conversational english courses for a year or two before unleashing him on us.

Now how can I solve my tutorial problem? I came up with one, although it's selfish solution. *I will switch tutorials,* I thought. No, that is impossible in second year! So I am stuck, my professor is unlikely to spend too much time with me ansering my questions, and my tutor is as much help as a solutions manual written in Czech. (I don't speak Czech).

If you would like to voice your opinions about the communication skills, or lack thereof among Teaching Assistants, write your ideas or thoughts to cannon@skule.ca.

Its Literally Depressing

Martin Jakubik
CompSci - Waterloo

What would it take to get students entering computer science to write well? What to write poetically? Is it not possible that, for a student interested in computer technology, writing could weigh equally with technical skill?

As a tutor for introductory cs at Waterloo in the summer of '98, were I to total all the marks I gave for written portions of assignments, the grade would be a failure. To see a paragraph that is written with proper grammar is elating when it comes from a heap of misspellings so awful that they, more than demonstrating ignorance, mock the very language they pretend to use.

The level of disgustingly poor written language is no joke: students who have been pushed by the system into money-making fields write so badly they are difficult to read. Fear is a problem more than lack of will: students write in earnest attempts to communicate that never fail to say the wrong thing.

Sifting through piles of computer code, the situation proves the worst when, in the simple introductory paragraph that students submit as a summary of their technical work, I am astonished by the correct use of the word 'its.'

'Its' problem. What's problem? The situation's. The neutered possessive. As opposed to 'it's a problem nobody feels the need to address.' 'It's' is a simple contraction of the neuter's existence, 'it is,' whereas the rarer 'its' assists when you find yourself referring to the subject's possessions twice in the same sentence.

And when I find somebody who hasn't put that glaring apostrophe into boasts of the qualities possessed by their code, I leap for joy and announce the triumph to all around me.

But the bigger problem is the reluctance. Writing with numerous misspellings and no structure can still survive comprehension, but what about when they don't write about anything close to what they're supposed to?

A cs assignment is typically a pile of programming code that only a computer can understand, and as tutors asked to browse through this garbage for correctness, we need the student to introduce us to what we're browsing. The introductory paragraph is a simple task: tell us how you've categorized the problem, how you have slotted the pieces into their proper holes, and how a pile of numbers you give to your program are going to plow through all the code. The most common response we receive is a description of the sleep patterns of students during the nights they worked on the program, including how many flow charts they used as a pillow.

They tell us a story about how they work, rather than how the program works.

It is easier. Anybody can tell me a bunch of lies about the graphs they drew to represent the problem, and anybody can generalize that they 'broke the problem down' before beginning. But they fear to tell me how they broke the problem down, or what they discovered from the graphs. Essentially, anything but tell me something interesting.

Would it be so tough to tell them in high school not to use passive voice? 'Due to the largeness of this function, the splitting of the function into three functions was necessitated.' If they really desire to write at such length, can they not be taught to include some content?

The professor himself speaks of formulae from geniuses that require 'notes to explain what in hell they're talking about.' Subjects in the classroom are always introduced in the abstract before trusting the students to try their hand at the practical. Communication is ridiculed by a single lecture on history so timid that it serves more to convince the students that computer history is useless than if no lecture were given at all.

What are the grade twelve English teachers doing? What kind of possession can business and the salivating gallop of technology have on our world if aesthetic language can appear convincingly frivolous? Make no mistake: cs and engineering lectures are getting longer and longer and longer because none of the f*ckers teaching them take any time to drive their subject poetically. Screw-heads who matured in machine shops and grew nursed by robots don't realize the power of rich, penetrating language to generate more images in the head than a thousand pages of an omniscient, categorical flowchart.

He stands at the front of the class and believes rigidly that the more he says, the more they'll know. But their ears strain for a drop of humanism, and when it fails to come, they shut.

Auditor's Report.

(continued from page 3)

BALANCE SHEET

As at May 31, 1998

ASSETS

	1998			1997		
	Society $	Store $	Total $	Society $	Store $	Total $
Current Assets						
Cash and term deposits - (Note 3)	138,698	17,583	156,281	26,496	5,636	32,132
Accounts receivable	23,911	2,187	26,098	31,882	-	31,882
Inventory	-	20,879	20,879	-	12,626	12,626
Prepaid expenses and sundry receivables	4,172	-	4,172	2,667	32	2,699
Loan receivable - (Note 4)	25,000	-	25,000	-	-	-
	191,781	40,649	232,430	61,045	18,294	79,339
Capital Assets - (Note 5)	19,128	6,989	26,117	19,031	519	19,550
	210,909	47,638	258,547	80,076	18,813	98,889

LIABILITIES AND MEMBERS' FUNDS

Current Liabilities						
Accounts payable	52,328	854	23,138	6,240	-	6,240
Deferred revenue - (Note 6)	0	-	30,044	-	-	-
Loan payable - (Note 4)	-	25,000	25,000	-	-	-
	52,328	25,854	78,182	6,240	-	6,240
Fund Balances						
Invested in capital assets	19,128	6,989	26,117	19,550	-	19,550
Internally restricted - (Note 7)	32,552	-	32,552	21,674	-	21,674
Externally restricted - (Note 7)	69,899	-	69,899	-	-	-
Unrestricted - accumulated surplus	37,002	14,795	51,797	32,612	18,813	51,425
	158,581	21,784	180,365	73,836	18,813	92,649
	210,909	47,638	258,547	80,076	18,813	98,889

Approved _____

See accompanying notes

STATEMENT OF REVENUE AND EXPENSES

For the year ended May 31, 1998

	Operating Fund $	Capital and Restricted Funds $	Total 1998 $	Total 1997 $
Revenue				
Fees - (Note 8)	100,752	68,875	169,627	179,531
Interest and other income	5,754	11,902	17,656	5,641
Locker income	6,113	-	6,113	5,870
Alumni funding	30,000	-	30,000	28,000
Career office	-	45,201	45,201	-
	142,619	125,978	268,597	219,042
Net Income (Loss) from Store Operations	2,971	-	2,971	(738)
	145,590	125,978	271,568	218,304
Expenses - Per Schedules				
Career office	-	45,201	45,201	-
General	76,497	6,301	82,798	70,213
Committee costs	55,853	-	55,853	151,274
	132,350	51,502	183,852	221,487
Excess (Deficiency) of Revenue over Expenses	13,240	74,476	87,716	(3,183)

See accompanying notes

Continued on page 5

A Ban That Will Never Be

Andrew Klochek
ELEC 0T0

In recent weeks, there has been considerable talk among engineering orientation leaders regarding the decision by the administration to ban the engineering "cheer", *artsies suck*. The reason behind the decision was that this particular cheer promotes a poor image for engineers around campus, is hurtful towards Arts and Science students, and generally promotes an environment where anti-intellectualism and sexism, thrive. While there is no denying that certain engineering students have been known to revel in the sort of humour that would have given Lenny Bruce indigestion, clamping down on their right to express their opinions publicly is not a viable solution.

The politically correct warriors donned their battle-armor last year after a series of sexist articles appeared in the Toike Oike, a newspaper, which openly advertised it's intent to offend people. This, and several other vulgar pranks, forced the issue of sexism, male chauvinism, etc., into the Office of the Dean. The P.C. warriors, who felt that decisive action should be taken right away. Among the issues raised, was that chants such as "artsies suck" have the effect of promoting the sort of "blatant prejudice" that exists in engineering. That being said, the word came down from the Dean, and the Frosh leaders were left with no one to hate this year. The brutish engineers were run out of town at sundown, and a victory was won for the heroes of justice for all. Or so they would have us believe.

The logic for banning the anti-artsie cheer goes like this: this cheer is the first step towards a gradual assimilation in to a world of brutish sexism and hate mongering. If we prevent our engineers from articulating such hateful feelings, then everything else (giant penis' et al) will go away too. Even a superficial study of twentieth-century history will show that no attempt by any government to stifle free-speech has ever been successful. Even the people of the former Soviet Union can still differentiate between freedom and tyranny after 75 years of communism and 300 years of feudalism. If anything, history has shown that attempts to subvert freedom of speech have produces a negative backlash from the populace. If the engineering cheer ban goes unchallenged, it will be because engineering students are among the busiest on campus and have more important things to attend to. I know I do.

However, there still remains the unresolved issue of how to deal with the Politically Incorrect engineers who just don't know when no means no. Having established that censorship is not the solution, there must be some other way to stop them from offending us with their sexist jokes. Unfortunately, I don't know the answer to that question. And not being much of a prankster, I cannot provide any insight that would enable the women of engineering to understand why some of their male colleagues think hanging aircraft-sized male sex organs in the atrium counts as humour. If I could, I would probably not be sitting here, staring aimlessly into space while thinking about how They think They have taken a great leap forward in solving the perceived problem of sexism in engineering. They may be drifting further away from reality than I did during Discrete Math lectures.

Martin's Corner...

"You Have No Portfolio."

Martin Jakubik
CompSci - Waterloo

How do you get into architecture?

Noriyuki Yumiyama, a Waterloo student, wanted to be an architect. He had studied art and was a good illustrator. He enjoyed drawing and wanted to continue doing it. In Canada, a student may apply to a wealth of university programs. High school students have hundreds of choices in dozens of schools. When Nori chose architecture, this is what they told him:

"You have no portfolio."

Thousands of students want to be architects, urban planners, fine artists. Coming out of high school, they are of equal chances. Prior to the work force, education exposes students only to ideals.

Nowadays, engineering, math, and science are the top fields promoted by the government. In Ontario, Mike Harris was heard critisizing the humanities as "irrelevant." New Brunswick leads the Maritimes in a deployment of high-tech industry, in effort to replace a failing fishing economy. The NAFTA negotiations focused on ensuring that Canadians and Americans do nothing but make software.

John Raulston Saul poses the question in The Doubter's Companion, "what if Canadians want to do something else?"

The system, which involves minivan commercials as well as Mike Harris' mouth, *is* constructed to pressure students away from the arts. It pressured Nori away from architecture.

When he went to ask the counsillor about the program, he expected help. But the counsillor only discouraged Nori. When it would be easy to explain how to actually put a portfolio together, the man made it into an obstacle.

A portfolio is a collection of your best artistic work. It is easy to put toget

her if you enjoy art and have pictures lying around in old desk drawers. But a portfolio is terrifying because at the end of your high school career, you don't have one.

If you were asked to make a portfolio right now, you would feel daunted. If you were told that "committed art students already have one," you would feel like a failure. Yet architecture is not that hard. If you have ideas, studying architecture is merely a tool to help you express them.

Nori, riled, perspiring, was ill-prepared to hear the rest of the counsillor's response:

"During the interview, my son," the counsillor emphasized, "you will be judged not only by professors, but by a panel of your own peers." It would seem, as the counsillor explained, that to enter an arcbitecture program you are to make your death-defying presentation in front of two other students competing for the same position. Students are grouped into agonizing groups of three, rotating so that each presents in front of the other two.

It turns out that the application is far from an attempt to do what you enjoy doing; it is an all-out war to defeat your enemies. The other sweating high-school students are not your future partners; they are opponents! You would likely increase your chances of acceptance by proving that the entbusiastic young architects in the room were inferior and unfit to saw two-by-fours in half.

Clearly, the episode was designed to convince Nori that he had no hope of becoming an architect. He chose instead to get into electrical engineering; there, he's doing great, but it was not his original career choice.

What buildings would he have designed bad he entered his favoured field? How impressive would his portfolio be, and bow quickly would he learn how to make his art better? Clearly, he's a fast learner since he now is succeeding in the hardest faculty in the universe.

Fine arts programs, as well as urban city planning and architecture, are designed to teach students a skill, not to prove them a failure. If engineering programs only accepted students who had already built bridges, enrolment would fall faster than the Tacoma Narrows. Yet high schools promote fine arts as a field for some elusive elite who were accomplished artists by age four.

The result is a disproportionate amount of students in scientific and math fields. Canada ill-favours the humanist tradition, then complains the lack of Canadian content in our media. Students like Nori and Bill Lee, the painter from UW system design, demonstrate how Canadians are subtly pushed away from doing the things they love.

Artistic ambition continually diverted is not a good social sign. Perhaps we do make good engineers here in Canada, but do we expect to get all our art through imports from Mexican labourers?

A Boat, A Dragon and $63,000

Katherine Wong & Cassandra Lee
CHEM 070

On Saturday, September 19th, the 9T8 Engineering Dragon Boat team arrived at Ontario Place pumped and ready for the 4th Annual Dragon Boat Challenge. It was a great two-day event that showcased both corporate and amateur teams. After being hit by a competiting boat in the first Saturday race, the team made a quick recovery to finish second in our division during Sunday's finals.

They only missed first place by half a second.

That half second was lost was made up for in spirit. Our team was the loudest by far, singing the all too famous "Let Me See Your Alligator" song and of course the "Engineering Hymn". This event raised over $63,000 for the Canadian Spinal Research Organization. The team contributed over $500 in pledges collected by the faithful and enthusiastic crew. Congratulations on a job well done.

Anyone interested in joining the 9T9 team should check out our webpage at:

www.ecf.utoronto.ca/~leec/dragonboat.html.

Auditor's Report.

(continued from page 3)

STATEMENT OF CHANGES IN FUND BALANCES

For the year ended May 31, 1998

	Operating Fund $	Invested in Capital Assets $	Externally Restricted $	Internally Restricted $	Total 1998 $	Total 1997 $
Balance - Beginning of Year	51,425	19,550	-	21,674	92,649	95,832
Excess (Deficiency) of Revenue over Expenses	13,240	(6,301)	69,899	10,848	87,716	(3,183)
Interfund Transfers	(12,868)	12,868	-	-	-	-
Balance - End of Year	51,797	26,117	69,899	32,522	180,386	92,649

See accompanying notes

STATEMENT OF CHANGES IN FINANCIAL POSITION

For the year ended May 31, 1998

	1998 $	1997 $
Funds Provided (Used)		
Operating Activities		
Net under (over) expenditure for the year	87,716	(3,183)
Add amortization which is a non-cash item	6,301	7,006
	94,017	3,823
Changes in Operating Working Capital		
Accounts receivable	5,784	(5,251)
Inventory	(8,253)	(2,201)
Prepaid expenses	(1,473)	(1,779)
Accounts payable	16,898	(4,133)
Deferred revenue	30,044	-
	137,017	(9,541)
Investing Activities		
Purchase of capital assets	(12,868)	(12,122)
Increase (Decrease) in Cash	124,149	(21,663)
Cash and Term Deposits - June 1	32,132	53,795
Cash and Term Deposits - May 31	156,281	32,132

See accompanying notes

NOTES TO FINANCIAL STATEMENTS

May 31, 1998

NOTE 1 Purpose of the Organization

The University of Toronto Engineering Society serves to provide student services to the undergraduate members of The University of Toronto Faculty of Applied Science and Engineering

NOTE 2 Summary of Significant Accounting Policies and Reporting Practices

Fund Accounting

The Corporation follows the restricted fund method of accounting for revenues and contributions

The Operating Fund accounts for the Corporation's committee costs, administrative activities and Store operations

The Restricted Funds report resources restricted as to use at the time of contribution and amounts established for future key initiatives as established by the Society members

Revenue Recognition

Restricted contributions are recognized as revenue of the Restricted Funds Unrestricted contributions are recognized as revenue of the Operating Fund in the year received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Investment income is recognized as revenue of the appropriate fund on the accrual basis

Cash and Term Deposits

Cash does not include amounts held on deposit for committee activities and affiliated clubs. These deposits are charged to committee expenses at the time the monies are advaneed by the Society

Inventory

Inventory is valued at the lower of cost (as determined on a first-in, first-out basis) and net realizable value

Capital Assets

Office furniture and equipment is recorded at cost with amortization provided on a declining balance basis at varying rates between 20% and 30% per year.

NOTES TO FINANCIAL STATEMENTS

May 31, 1998

NOTE 3 Cash and Term Deposits

Cash and term deposits consist of operating funds and restricted funds as follows:-

	1998	1997
Cash and term deposits - unrestricted operating funds	$ 53,830	$10,458
Grad Ball	16,022	13,036
Levy Fund	16,530	8,638
Endowment funds	69,899	-
	$156,281	$32,132

NOTE 4 Loan Receivable (Payable)

During the year The University of Toronto Engineering Society loaned $25,000 to The University of Toronto Engineering Bookstores

NOTE 5 Capital Assets

Capital assets are made up of the following:

	Cost	Accumulated Amortization	Net Book Value 1998	1997
Furniture, computers and office equipment	$77,828	$51,711	$26,117	$19,550

NOTE 6 Deferred Revenue

Deferred revenue substantially comprises revenue received in advance for the Career office which will cover costs to be incurred between June 1, 1998 and September 30, 1998.

STATEMENT OF STORE OPERATIONS AND SURPLUS

For the year ended May 31, 1998

	1998 $	%	1997 $	%
Sales	79,491	100.0	21,793	100.0
Cost of Sales				
Inventory - June 1	12,626		10,425	
Purchases	76,499		22,245	
	89,125		32,670	
Inventory - May 31	20,879		12,626	
	68,246		20,044	
Gross Profit	11,245	14.1	1,749	8.0
Other Income	3,500	4.4	-	-
	14,745	18.5	1,749	8.0
Expenses				
Store salaries and employee benefits	4,856		2,092	
Repairs and maintenance	-		192	
Office and general	1,994		75	
Consultancy fees	2,000		-	
Amortization - office equipment	2,922		130	
	11,772	14.8	2,489	11.4
Net Income (Loss) from Operations for the Year	2,973	3.7	(740)	(3.4)
Accumulated Surplus - June 1	18,811		19,551	
Accumulated Surplus - May 31	21,784		18,811	

SCHEDULE OF COMMITTEE COSTS (CONTINUED)

For the year ended May 31, 1998

	1998 $	1997 $
Fourth Year		
Fourth year general	247	220
Graduation Ball	5,240	8,147
Kipling Ritual	5,717	5,782
	11,204	14,149
Professional Development		
General	500	84
Engineering congress - CCES	6,184	4,097
PEO	922	530
OESP/WISE	965	939
ESSCO	1,069	1,691
	9,640	7,341
General		
Employment	-	78
Career services (expenses)	-	84,864
Orientation (net)	(3,277)	5,567
Pub - SUDS (net)	4,905	7,369
First year council	1,405	632
Skule Nite	2,312	2,048
Special projects (net)	9,540	6,183
OEC/CEC	72	622
High school liaison	(20)	281
	14,937	107,644
Total	55,853	151,274

SCHEDULE OF COMMITTEE COSTS

For the year ended May 31, 1998

	1998 $	1997 $
Communications		
Handbook	(427)	(1,897)
Yearbook	(4,579)	(6,709)
Toike Oke	1,084	2,701
Darkroom	469	926
Publications - other costs	438	2,225
The Cannon	2,875	4,389
	(140)	1,635
Social		
Cannon Ball	3,949	2,970
Oktoberfest	42	423
General	1,499	57
	5,490	3,450
Affiliates		
Professional experience	-	872
Club grants	8,475	8,526
Debating Union	702	2,515
	9,177	11,913
Blue and Gold		
Cannon Guard	967	1,176
LGMB	564	(86)
Blue and Gold general	1,294	1,265
Godiva week	1,978	1,486
Homecoming	742	1,301
	5,545	5,142

SCHEDULE OF GENERAL EXPENSES

For the year ended May 31, 1998

	1998 $	1997 $
Amortization - office furniture and equipment	6,301	6,876
Bad debt	7,062	10
Executive and Council	4,425	4,261
Gifts, donations and awards	1,200	1,470
Insurance	2,115	2,055
Interest and bank charges	1,424	217
Professional fees	5,250	4,035
Office wages and employee benefits	32,647	30,697
Postage and photocopy	834	990
Printing and stationery	12,486	10,177
Repairs and maintenance	4,058	4,692
Telephone	676	1,573
Elections	503	519
Computer systems	1,046	1,474
Miscellaneous	2,771	1,167
	82,798	70,213

NOTES TO FINANCIAL STATEMENTS

May 31, 1998

NOTE 7 Fund Balances

The Internally Restricted Fund balance is made up of the following -

	1998	1997
Grad Ball Fund	$16,022	$13,036
Levy Fund	16,530	8,638
	$32,552	$21,674

The Graduation Ball Fund is restricted for future Grad Ball events.

The Levy Fund is held and disbursed annually to finance special projects and departmental purchases of equipment to enhance the quality of undergraduate education, with advice from the Faculty

The balance of the Externally Restricted Fund consists of an Endowment Fund of $68,875 (1997 - Nil)

A permanent endowment was established pursuant to a referendum held in April 1997 to provide financial aid in perpetuity to full time undergraduate students The fund shall receive contributions in the amount of $337,500 from each entity: Engineering Society (U of T), Ontario Government (OSOTF) and University of Toronto (EAF) to establish a base fund of approximately $1,000,000 beginning fiscal year 1997/1998

The Engineering Society is committed to collect a new student levy of $25 per student per year over a term of five years to raise its base share of $337,500 All the proceeds received shall be invested in interest bearing term deposits at the local Chartered Banks and the revenues on these investments would be used to be disbursed according to the mandate of the plan

During the financial year ended May 31, 1998, the Engineering Society collected $68,875 from 2755 students registered in the faculty

NOTE 8 Fee Revenue

Student fee revenue is reflected in the financial statements net of levy fund contributions paid as follows -

	1998	1997
Gross Fees	$514,002	$444,731
Deduct		
Levy Fund Contributions	(275,500)	(265,200)
Endowment Fund - (Note 7)	(68,875)	-
Engineering Career Office	(68,875)	-
	$100,752	$179,531

News External

Physics: Second-Guessing the Superheavyweights

Henry Gee
NATURE NEWS SERVICE
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Transplant medieval alchemists into a modern physics laboratory, and they wouldn't know whether to laugh or cry. Physicists seem to have transformed the dream of the transmutation of one chemical element into another into an almost mundane reality, creating bigger and bigger atoms of artificial elements that nature has never before seen.

But even Olympians have their cares, as demonstrated by a report in the international edition of the journal *Angewandte Chemie*. In the report, Peter Schwerdtfeger and Michael Seth of the University of Auckland, New Zealand, with Knut Faegri of the University of Oslo, Norway, predict the chemistry of the superheavyweight atom of element 114 – an atom that nobody has yet succeeded in creating. More than that, the unusual properties of extremely large atoms defy all but the most powerful computer routines, so that the researchers' conclusions are hard-won indeed.

The heaviest naturally occurring element is uranium. This has an 'atomic number' of 92, meaning that it has 92 positively charged protons in its nucleus, balanced – in a neutral atom – by 92 negatively charged electrons orbiting in *various 'shells'* around the nucleus. The electrons present the 'public face' of an atom. Their number and arrangement around a nucleus govern an element's chemical properties.

The nucleus of a uranium atom does not have a 'weight' of 92 units: in all elements, the nucleus is bulked out by electrically neutral constituents called neutrons, each of which has a mass slightly greater than that of a proton. Each element may have a number of 'isotopes' in which a nucleus containing a given number of protons is accompanied by varying numbers of neutrons. The most common isotope of uranium is uranium 238, in which the 92 protons have a retinue of 146 neutrons (that's 238 minus 92).

Variation in neutron number has little influence on an element's chemistry, but it makes itself felt in other ways. Atoms of some isotopes are unstable and spontaneously decay, emitting radiation: protons in the nucleus may suddenly become neutrons, so that the atom changes its atomic number – in effect, it becomes a different element. Such transformations may be artificially induced: and bombardment of atoms of some elements with neutrons can create atoms of new elements, never before seen. Alchemy becomes reality.

In this way, physicists and chemists have created a whole range of 'transuranic' elements, beyond uranium. All are radioactive, and most decay rapidly into other elements, by spontaneous emission of radiation. Perhaps the best-known is plutonium (element number 94).

Elements up to 112 have been created in particle accelerators, and elements 113 and 114 could follow soon. Even though all isotopes of transuranic elements have a fleeting existence, artful chemistry – sometimes on single atoms – has succeeded in sketching out their behaviour before they vanish. In this way, some insight into the chemistry of element 106 (seaborgium) has been gained, one atom at a time.

But where experiments cannot yet succeed, computer modelling moves in. Schwerdtfeger and colleagues have modelled the atom of element 114 to make predictions about its chemistry.

Conventional chemistry predicts that 114 will fall into a group of elements that includes – in order of increasing mass and complexity – carbon (element 6, with 6 protons and 6 electrons), silicon (14), germanium (32), tin (50) and lead (82). A single atom of carbon can form four chemical bonds at once. This property, perhaps more than anything else, explains why carbon is the basis of the complex chemistry of life. Silicon atoms are nearly as handy – most of the Earth's rocks consist of silicon chains bonded together with other elements such as oxygen and aluminium. But larger atoms, such as tin and lead, bind four atoms at once with extreme difficulty. Four-handed lead compounds are unstable, even explosive. Lead atoms tend to bind a maximum of two other atoms at once into chemical bonds.

Element 114 behaves like a super-gigantic version of lead. Schwerdtfeger and colleagues model the behaviour of 114, to show that its atoms would be extremely reluctant to form more than two chemical bonds at once. This has important consequences for designing ways to catch the few atoms that a particle accelerator would generate. A four-handed atom would produce compounds that would be stable in the gas phase, but compounds of a two-handed atom would be soluble in water.

But what perhaps complicates the predictions more than anything is the consequence of the sheer hugeness and complexity of the atom. Nuclei this large, and so highly charged, bind their electrons with incredible tenacity. The electrons, so tightly in thrall, whirl around the nucleus at relativistic velocities. The result is that the electrons have far more apparent mass than one would expect. This is a simple consequence of Einstein's prediction that objects with mass (which electrons have, even though it is small) will become appreciably more massive if they move at large fractions of the speed of light. This extra mass, inevitably, feeds back on the chemistry of the atom and alters its properties, compared with what they would have been were relativity not an issue.

Where is this all leading? Why seek to create and understand these ever-heavier atoms? Apart from the intrinsic interest of each one individually, researchers are seeking for a still-elusive 'island of stability'. Some researchers predict that atoms above a certain mass, and with particular combinations of protons and neutrons, will be stable enough for researchers – perhaps – to collect enough of them to see the element that their instruments are handling, and to understand their bulk properties. Studies on atoms in this 'island' will inform and enrich our understanding of the venerable Periodic Table – and the properties of matter in general – in ways that can only be guessed at present.

To reach this island is a worthy quest, but landfall still lies some way over the horizons of both theory and experiment.

Internet Use Leads To Depression, Social Withdrawal

Andrew Adamson
exn.ca

Internet leads to greater isolation in the home.

The Internet was supposed to bring the world closer together. And certainly there's no question that it has helped make the world a smaller place for *some* people.

But a new study of wired families by a multi-disciplinary team of researchers at Camegie Mellon University in Pittsburgh has found that the Internet also has the potential to make us all more lonely, depressed and socially isolated.

Tridas Mukophadhyay, professor of Camegie Mellon's graduate business school and one of the study's authors, says the findings were unexpected.

"It's surprising because we had thought the Internet, more than TV, is an interactive medium," Mukophadhyay says. "We thought the Internet would open the world out for people, help them make new friends and find new information and they'd be better off."

That's not what they found.

The study, which was funded the U.S. National Science Foundation and a consortium of computer companies, began with 100 families. After completing a 26-page survey measuring their social and psychological well being, each interested family member was then given his or her own personal access to the Internet through the University's own computer network. Their use of the Internet was then carefully logged, documenting how long they spent online. Finally, after a year, those who remained in the study were asked to complete the same survey again.

By this time, armed with the data on 169 people and 73 families, the evidence was pretty clear: the more time a person spent on the Internet, the more likely they were to withdraw socially. They spoke less with other family members, their network of acquaintances shrunk and they reported being lonely and depressed more often.

Bringing the computer out of the shadows and into the family living space is key to helping teens.

Mukophadhyay says the reason for this was actually fairly simple. Every minute a person spends on the Internet takes away time that could be spent doing other things. It certainly bites into television-watching time. But it also takes away time normally spent talking with friends or having family conversations.

"We think that part of what's happening is that people get onto the Internet and they don't really talk to the people they usually talk to," he says.

"Yes, the Internet gives you access to lots of everything. But it doesn't let you talk to your best friend if that friend doesn't have an Internet connection." Obviously, this problem is a fairly temporary one, Mukophadhyay says, as more people in more walks of life get online.

"On the other hand, people shouldn't think that the Internet can substitute for real life. They cannot ignore their own friends and family."

Mukophadhyay says the problem of social isolation should be especially troubling for parents of teens.

"Teenage children seem to be having a worse effect than adults. They seem to be getting more of a psychological downturn than adults."

One solution to this problem would be to pitch the computer out with the trash. But Mukophadhyay says a better solution is to treat the computer as a way to bring the family together.

"You don't want to keep the computer in an isolated place, like in the basement or the attic. If you put it in a public place, you can see what the teenagers are doing, how much time they are spending online. It's very much easier to keep in touch with your teenage children if they are near you."

Einstein's Slob Factor

Brahm Rosensweig
exn.ca

Physicists, it seems, are just not keeping the ideals of Einstein in good repute. Einstein proved through his famous Law of Relative Slovenliness that beyond a certain point of academic honor, respect for one's intellectual prowess increases inversely with the level of dress skills. In layman's terms, the more slovenly one's dress code, the more people are apt to consider one a genius. Now all that seems poised to be turned on its head.

Raising their august heads from weightier questions like the limits of the cosmos, physicists of today have become concerned with entropy closer to home - decreasing enrollment in their discipline at schools and universities. They've boned in on one element as the culprit - their own shabby clothing. The clarion bell of alarm was rung this month in a letter to the journal *Physics Today*, by one University of Pittsburgh pbysicist Jeremy Levy. "For too long we have neglected our own shabby appearance, all the time wondering why enrollment in our discipline is dropping." And like the apple that dropped on Newton's head or the bathwater of Arcbimedes, the dawning realization that broke upon Levy came in a single mundane yet cataclysmic epiphany.

It all started at a physics conference in a convention center. The room was full of scruffy people dressed in khaki shorts. tweed jackets and rumpled shirts. Amorphous backpacks resembling nebulae were rife. Stepping out for a breather, Levy spied another conference across the hall. The sign told him it was a meeting of flooring and tile manufacturers. One thing, though, captured the scientist's ever-observant eye: These flooring people really knew how to dress! Like a honeybee drawing closer to a flower, Levy wandered into the rival conference, admiring the stylish acumen of this unfamiliar tribe. But his reverie wasn't destined to last long - a hand soon descended on his shoulder and he turned to face a tall, well-built and above all well-dressed man. He had been spotted in the crowd as a crasher, simply on the strength of his own slovenly dress. And far from receiving the accolades of an Einstein, he was unceremoniously ejected.

It was then that Levy understood.

He began to work feverishly on his General Theory of Disproportionate Slovenliness. It stated that in a world where surface is more important than substance, rumpled academics in sboddy duds would get passed by. The Theory successfully predicted the declining curve in Physics enrollments, and indicated that the student base would keep on shrinking until it was smaller than a pinhead. smaller than an atom, and smaller than a neutrino. And Levy and all his colleagues would be sucked into it, to emerge in a parallel universe on the other side where salesmen wore sweatsbirts and tattered cutoffs. But that, concluded Levy, would be a shame.

Because physicists need to keep people informed about all the incredible research they're doing, and keep the flame burning. And, in the words of Levy himself: "We need to look cool doing it."

Canada To Get National Optical Internet NetWork

Steve Gold
Newsbytes News Network

The Canadian government today teamed with several industry majors to announce plans to create the world's first national optical Internet network.

The "CA*net 3" network, as it will be known, will be a joint operation between CANARIE (the Canadian Network for the Advancement of Research, Industry and Education) and a Bell Canada-led private sector consortium.

According to Canadian government officials, speaking at a press event broadcast across the Web at 11am Eastern standard time today, the network will offer both business and consumer users of the Internet access to a vastly increased bandwidth.

The government has earmarked $55 million in funding for the project, which will use fiber optic technology, as well as dense wavelength division multiplexing (DWDM) protocols, to squeeze extra bandwidth from what will be an already wide bandwidth network.

John Manley, the Canadian Industry Minister, said that, although the initial use of the network will be in support of Canada's high technology and research communities, it will eventually have tremendous impact on all Canadians.

"This initiative, the latest example of Canadian innovation in communications technology, provides a great opportunity for Canada," he said, adding that, in due course, the benefits of CA*net 3 will provide schools and communities across Canada with unparalleled access to the vast resources of the Internet.

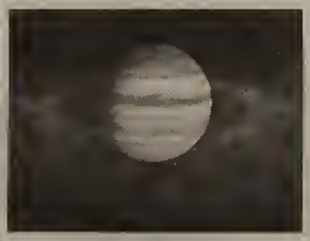
Plans call for CANARIE and the Bell Canada consortium, which includes Cisco Systems Canada, JDS Fitel, Newbridge Networks and Nortel, to develop and deploy the core of the new fiber optic network.

"The participation of all of these companies in this consortium is an indication of how important this initiative is to Canadian industry," noted Andrew K. Bjerring, CANARIE'S president.

Unlike existing networks, which have been built primarily to support voice communications, CA*net 3 is being targeted to be fully active as early as October of this year and is being built specifically as an Internet network with voice traffic treated as just another form of data.

The idea, Newsbytes notes, is for CA*net 3 to enable numerous health, research, educational and commercial applications not possible on today's networks, such as remote video links for doctors.

Astronomers crack mystery of Jupiter's faint rings



Andrew Adamson
exn.ca

They may not be as dramatic or as beautiful as Satum's rings, but NASA and Cornell University scientists say new photos from the Galileo space probe show the rings around Jupiter are amazingly complex.

And they say the photos appear to settle a long debate on where those rings come from.

Astronomers have known for some time that Jupiter has rings. In the late 1970s NASA's Voyager I and II spacecraft took detailed photos of the planet's rings. It found a strong, dusty ring and an inner "halo" of fine particles circling the planet. But in one photo, there also appeared to be a third, extremely faint ring within the orbit of the gas-giant's miniscule fourth moon. This was called a 'gossamer' ring (a gossamer is a cobweb that's so light it appears to float in the air).

On Tuesday, NASA scientists told reporters that new photos taken two years ago raise our understanding of the rings to a whole new level - and even hint at the possibility of similar ring systems around other planets.

Galileo took three dozen pictures of Jupiter's rings and its four small, inner moons during three orbits in 1996 and 1997. As the probe passed into the shadow of the planet, blocking out the Sun's blinding light, the cameras explored the brightly lit rings.

It showed the same donut-shaped halo and the inner ring that Voyager saw. But it also confirmed the existence of two thick but faint 'gossamer' rings and they say their cylindrical shape appears to prove just where the dust is coming from.

One unusual feature of Amalthea and Thebe, Jupiter's third and fourth moons, is that their orbits wobble very slightly over time, like a warped phonograph record on a slowly rotating turntable. That means sometimes they are 'north' of the planet's equator and at other times they are 'south' of the equator. So, rather than a flat disk, the moons trace out a flat 'cylinder' of space. And the scientists say the dust rings fit neatly and precisely into these narrow cylinders of space.

They say this proves these tiny and irregular moons are the source of the rings.

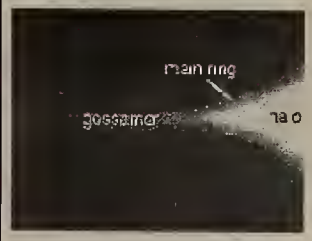
Maureen Bell, a research associate at the Center for Radiophysics and Space Research at Cornell University, is one of the scientists responsible for collecting and analyzing the photos.

"When we first got the pictures back, we thought there must be something wrong with the camera," she says. "It's always a shock to find an explanation in science for something that people have been talking about."

She says photos of the four inner moons of Jupiter show they are regular targets of meteoroids drawn inward by the planet's enormous gravity. When they collide, it sends a huge cloud of superheated rock and dust into space. If the moons were massive enough, they'd draw back much of that dust. Instead, the particles float away and spiral inward towards Jupiter, attracted by the planet's strong gravitational pull.

Bell says this isn't a lot of dust. If you were to sample the rings in a volume of space about the size of a large theatre, you might find only five tiny grains of dust. But there's enough in the inner ring to be seen with the naked eye, if you were in orbit around the planet.

This confirmation of an alternate theory for the creation of rings around other planets suggests there may be more rings around other planets that we haven't seen yet. All that's really needed is a small, rocky moon.



The 'gossamer' ring that was so difficult to spot.

This ring structure is much more complex than originally thought.

Andrew Adamson **is a science news reporter on the *Exploration Network*. More on this can be found on the EXN website at *http://www.exn.ca***

PEO Series Overview:

A Look At Professional Engineers

Professional Engineers Ontario

Adam DeVita
ELEC 0T0+PEY

This is the first article in a long series about PEO (Professional Engineers Ontario) The prime source of content is based on interviews with PEO Vice President, Peter DeVita. If you have any questions about PEO you can e-mail my editor (cannon@skule.ca), who I expect to forward mail to me, or visit the PEO web site, www.peo.on.ca .

Topics of this Series:

1) What's PEO?
- *Issues of Regulation and Advocacy*

2) PEO Student Initiative
- *New Experience Requirements*
- *How Do You Get Your P.ENG?*

3) What's CSPE?
- *The Unfolding Future of CCPE*
- *PEO Elections and Election Reform*

4) Engineering Incomes:
- *Key Strategic Issues and Relevance of PEO to the Modern Engineers*

5) Emerging Disciplines
- *PEO's Culture Changes*

During all this the PEO hot topics such as the CCPE vs. Memorial University lawsuit will be followed.

What is PEO?

PEO (Professional Engineers Ontario) is a regulatory body for Engineers in Ontario. Thev determine who is a Professional Engineer.

The government appoints 1/3 of PEO Council, and Engineers (PEO Members) elect 2/3 . One third of council is elected each year.

PEO is set up in a self-regulatory model, which is a Canadian creation. Engineers control the regulation of the engineering profession. IN the USA for example engineering exams are run by civil servants that may know nothing about engineering. Since NAFTA, Mexico has stated its intention to follow the Ontario model.

A "statutory body" is a government tool created by Parliament to do a specific task. Under the British North America Act (BNA) the provinces define all professions. PEO was created as a licensing body to protect the public interest. PEO is run and controlled by Engineers, since only Engineers can determine if an Engineer is guilty of malpractice.

A Profession is defined by 1)A set of skills with 2)a code of ethics.

In order to set up a profession you need A) A Skill Set B) Laws to say only people with the skill set can practice (ex: only Doctors can perform surgery) c) Somebody to judge who has the skills (and ethics) to practice

The Skill Set is determined by the Faculties of Engineering (see your course calendar). The government in two ways provides the laws. The first set of laws supplies engineers to the public. These laws include the Engineering Act, and laws that states things such as: Any building taller than 3 stories requires the approval of an engineer. The second sets of laws demand engineers to perform a particular function. These include most building codes. PEO proposed to involve an Engineer when the public interest is at stake. Atomic Reactors require Comp Eng created software, Atari 2600 doesn't. C) PEO is the somebody to judge.

Licensing

PEO determines who can be a Professional Engineer (P.Eng) in the province of Ontario. PEO, as a licensing body, which fundamentally restricts who can practice the profession. This is necessary with the same logic that without the College of Physicians restricting people anybody would be able to do surgery and make prescriptions. To "Protect the Public Interest" (read that "save lives") the College of Physicians was set up to make sure doctors were trained properly, and to keep them adhering to the code of ethics. In exactly the same way PEO handles malpractice and discipline, and public complaints. If PEO finds you guilty (after a discipline hearing) of malpractice, or unethical practice, PEO can strip an engineer's credentials, and prevent them from practicing engineering.

Enforcement

Regulatory bodies have the right to take civil action against non-professionals who claim to be one. History shows that courts give $10,000 fines for each infraction. If someone wrote P.ENG after their name, or claimed to be a Professional Engineer 10x, they would be fined $100,000.

CSPE Sues Memorial University. CSPE, The Canadian Society of Professional Engineers, is a creation of all the provincial regulatory bodies. It acts the same way as our ENGSOC, and holds the trademark to the word Engineering.

Memorial University in Newfoundland has offered a course called "Software Engineering" through the Computer Science department. Comp SCI's can't become Professional Engineers, since COMP SCI isn't COMP ENG. CSPE is taking Memorial University to court for infringing on its ownership of the term "Engineer". Other Canadian Universities have formed an alliance to come to Memorial University's aid in the court case.

PEO and UofT Skule have come to an agreement about software engineering courses. More details as they develop.

Self Interest and Advocacy

Since PEO was created by Parliament, it is responsible to parliament. If the government of Ontario wishes, it can repeal the Engineering Act, and disband PEO. Parliament has ordered PEO to separate self-interest and Regulatory functions, in 1984. The debate has been primarily about how to do the parliaments wishes (Note: it's 14 years later now).

PEO is still in the middle of internal debate about what it should do. Given the relative decline in engineer's salaries and prestige, somebody has to do some self-promotion for engineers. Many people both within and outside PEO believe that engineers need 2 bodies, 1 (PEO) for Regulation, and another for engineer's self interest (which is included in the term "Member Services"). PEO is a government created regulatory body that also holds banquets and dances for members.

From the point of view of the public, how can PEO be trusted if it's a regulatory body that promotes its own member's economic health? As a statutory body, PEO has the right to manipulate power in the belief that the public interest will be better protected. "To use this power for the social and economic self interest of those within the profession would be inappropriate." Stated the Attorney General in 1984.

Those who say we don't need two separate bodies observe that health insurance programs are irrelevant to the public interest. This form of self-interest (member service) isn't contradictory to the Engineering Act, therefore some self-interest can be done by PEO.

This of course prohibits blatant self-interest such as lobbying the government. To do this takes money. The main source of money for an Engineers self-interest group is from its membership. Why would people join? The big attraction to the self-interest group would be both social reasons and member services such as insurance. Since the PEO fees are mandatory (by government law) there is no way a self-interest group can compete with PEO with member services such as insurance.

What's Happening Right Now?

A new movement has taken PEO by storm. It's called Engineers for Engineers (EFE). EFEs have basically got fed up with the current system, and got together, creating a group and took over PEO Council. It took 2 years for EFE to take control of PEO Council, with a majority of members. This includes the President, President Elect, and both Vice-Presidents. Last spring, along with PEO elections, PEO held a referendum about self-interest. 72% of PEO members that voted wanted to create a new, separate self-interest advocacy body. Based on the election and referendum win, the Advocacy Task Force was set up. The task force took a statistically sound survey and determined that members felt the self-interest group's roles in order were:

1) Lobbying the Government and promoting the image and status of Engineers.
2) Member Services (such as social events and insurance)
3) The self-interest group shall be built using existing framework, namely the CSPE. (Canadian Society of Professional Engineers.)

On September 10, 1998 PEO Council passed a motion to create the Advocacy Implementation Task Force. This task force will work with the CSPE (which is similar to our Engineering Society) to create the desired self interest organization. Much of CSPE's funding comes from PEO.

The fundamental questions that they have to answer are:

1) How do we attract lots of members?
2) How do we ensure adequate funding for global lobbying and Promotion?

The TV advertisements last year cost PEO $1,000,000.

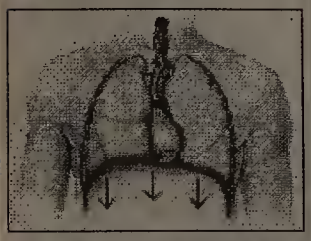
Adam Devita is currently working on a PEY term and is corresponding via email. He will be writing articles based on PEO, and providing more insight on the establishment and policies of the Professional Engineers of Ontario during the next several issues. Stay tuned for the November issue of the Cannon for more.

Why Do We Hiccup?

Andrew Adamson
exn.ca

Blame a spasm in the belly! When I was a very young child, it didn't take much to make me hiccup. All it took was a good, long laugh. Tickling me did it. So did Monty Python. I seem to recall getting the hiccups after my mother killed a wasp with her shoe - I guess you had to be there.

A hiccup is nothing more than an involuntary spasm in the diaphragm (the wall of muscle inside the ribcage that controls breathing) followed quickly by the closing of the glottis (the opening between the vocal chords). Togetber, these make the distinctive belly spasm and the audible *'hic!'* of a hiccup.



Some medical conditions are known to cause hiccups - including irritations to the diaphragm and the *phrenic* nerves that supply it. Pneumonia and hepatitis are also known sources. So is alcohol. And as I discovered as a youngster, so is laughter.

The truth is there's really no single, iron-clad medical reason for what causes this unusual, sometimes embarrassing, often annoying condition. Some biologists have suggested it is an extremely ancient remnant of the irregular breathing patterns that our the semi-reptilian ancestors may have had. Others have suggested it's a left-over from our time in the womb, where it was perhaps a way to exercise the diaphragm muscle.

But perhaps a more plausible explanation for garden-variety hiccups is *air*. When we chew, air gets mixed up in our food - and sometimes, when we eat too quickly, too much air gets into our stomach. Some biologists suggest the hiccup is the body's attempt to shake the air loose from the food so it can escape in a burp - the rough equivalent of tapping a pop-filled glass on the bottom to dislodge the bubbles.

As for cures, there are several methods. Breathing into a paper bag raises the carbon dioxide level in the blood stream, calming the muscles and stopping the spasms. Drinking large amounts of water while plugging your nose seems to work too - perhaps starving the muscles of oxygen while by watering down the contents of the stomach so air can escape. An old folk remedy is a tablespoon of sugar - which may help speed up digestion.

But perhaps the funniest cure is a psychological one. Next time a friend has the hiccups ask the victim for the money he or she owes you. While they rack their brain trying to remember when they ever borrowed from you, their hiccups disappear. It's worked every time I've tried it.

I don't know why it works. All I know is that it does. But you can only use it once on a single victim and now you know the secret, it will never work on you.

University of Waterloo:

Talks continue on high-tech expansion

University of Waterloo officials are still talking with the Ontario government about how Waterloo could take part in its "Access to Opportunities" program, which is aimed at doubling the number of students in high-technology programs in the province's colleges and universities.

University of Waterloo, Queen's University and Sheridan College were the three institutions that balked at the province's rules, announced last spring, under which there would be special funding for new students in certain programs, but only if first-year enrolment were doubled from its 1997 level. Waterloo's programs in computer science and electrical and computer engineering are just too big to make doubling feasible, officials here said. Other institutions, such as McMaster, leaped at the opportunity.

"I think we'll get in," University of Waterloo provost Jim Kalbfleisch said on Friday, noting that talks with the government about possible changes to the rules are still going on. He said University of Waterloo isn't too worried about finding enough qualified students to fill hundreds of extra places, although there's some concern about where to find faculty members in a time of heavy demand.

The University of Waterloo would have had to increase the number of [information technology] students, mostly in computer science and computer engineering, by roughly 2000. Such an increase represents more than 10% of the total student enrolment at Waterloo, and is significantly greater than the increase required of any other university in Ontario.

The University of Waterloo did put forward a counter-suggestion to the Ministry in which the University would have been prepared to increase its planned first-year IT enrolment by approximately one-third (which is about all that we could comfortably accommodate). This suggestion was initially rejected on the basis of an "all or nothing" attitude on the part of the government, but rumour now has it that further discussions have been more promising.

McMaster University:

Engineering launches new degree, new department

When it boots up this fall, McMaster's software engineering degree program will be the first of its kind in Canada. It's not only new and unique, however; it's also fulfilling an urgent need for experts in computer software design.

"The federally sponsored Software Human Resources Council has stated that, on any day, there are 20,000 unfilled positions for people in the software field," explains professor of electrical and computer engineering Dr. David Parnas. "Because software is now used in every type of organization, and in designing every type of device, career opportunities for software engineers are essentially unlimited," he says. "With a B.Eng. in software engineering, our graduates will be able to choose among careers in the computer industry, the communications industry, the bio-medical field, banking, the power industry, the chemical industry, the automotive industry and many more."

He stresses that the new program is the first to treat software engineering as a branch of engineering outside of computer or electrical. It emanates from the University's newest department, the Department of Computing and Software in the Faculty of Engineering, launched Jan. 1 and chaired by professor of chemical engineering (and, now, professor of computing and software) Dr. Paul Taylor.

"Our idea was to broaden the scope of the University's offerings in computer science and software engineering," says Dr. Taylor. "We hope that the certification of the computer science programs and the accreditation of the software engineering programs will put McMaster in a position to offer three distinct options in the computer and software fields computer engineering, computer science and software engineering all of which will meet the standards of their discipline.

"In addition to offering a new program in software engineering, the new structure will strengthen and develop computer science as an important discipline in a research-intensive university," he adds. The mandate for the new department includes plans to offer an M.Eng. degree in software engineering and a PhD in computer science and software engineering by 2000.

Meanwhile, under strategic priority funding, the department will hire at least seven tenure-track faculty positions over the next three years, in addition to two recently hired. "This is a truly pioneering program," says Dean of engineering Dr. Mamdouh Shoukri '74 proudly. "No other university in North America is offering a program that treats software engineering as a new discipline within engineering that is independent of the more established disciplines."

Simon Fraiser:

Engineering students solve everyday problems creatively

Want to know when it's time to replace those car brake pads? Need relief for muscle tension? Or maybe you'd like to be free from second-hand smoke?

A group of SFU engineering students has solutions to all of those problems, and more.

Each spring, engineering professor Andrew Rawicz challenges a class of third-year students to invent gadgets that solve common, everyday problems. "Developing products and marketing oneself is an integral part of engineering," says Rawicz, who has bis own company, Andrew Inc., and lays claim to several of his own inventions, primarily for use in the health field.

Students not only develop their concepts, they come up with the ideas and "take full responsibility, from start to finish," Rawicz says.

Often, students come up with their own financing — and are later reimbursed through the school's John Wighton engineering development fund, set up to help students develop their ideas.

Students often take those ideas beyond the design and development stage. Pavel Haintz flew his airship to victory in an international competition last month (see Pavel). Graduate students David Williams and Ashish Gupta hope to market their 'Eye Mouse,' an eye-controlled computer mouse, created last year.

Among the latest student inventions:

• A brake wear sensing system, which independently monitors the thickness of each brake pad and displays the percentage remaining to the driver.

• A brain-wave-activated switch, or BrainWASH, an interface which enables people with limited motor abilities to control their environment by merely closing their eyes for a fraction of a second (by detecting the resulting increase in alpha rhythms).

• An environmental tobacco smoke control and monitoring system, comprised of a central control unit and four remote sensing units, which continuously monitor the environment for second-hand tobacco smoke, set off a warning and activate ventilators when it exceeds the user's threshold.

• A portable bio-feedback device, known as Myotrainer, which can be used at home to monitor and train muscle activity, to reduce symptoms such as headaches, grinding teeth, earaches and backaches, frequently attributed to muscle tension.

• An automated shopping companion called BasketBill, a short, three-wheeled robot with a shopping basket, which follows behind the user on an 'ultrasound' leash, while carrying groceries or other small items.

• A wireless fencing scoring system, which applies leading edge wireless technology to an age old sport. With for the international standards for systems used at the Olympic and world championship level

Teresa's Tantrum

Teresa Huang
Mineral 9T9

I met a high school classmate on the subway on the other day, someone with whom I have not spoken in years. It can potentially be awkward to randomly meet someone you sort of know in high school. Luckily, we knew each other enough to not have had to avoid eye contact and pretend that we were engrossed in reading subway ads, the same one for the tenth time, wondering if someone should say something, and if the other person would mind if one were to say something. And we didn't know each other enough to have had to make up excuses for the lost contact by stating how exhaustingly busy our lives were. Instead, we had an amicable chat about current goals and future plans. Before she left though, she dropped a "Oh, Teresa.. did you know.. I'm engaged!"

I saw myself doing the girlish squeal congratulating her, and in my mind I echoed "Another kernel popped." After hearing news of old acquaintances getting either married or engaged, more frequently than ever, it dawned on me on the other day that we all are like the kernels in a bag of microwave popcorn. It'll look like a bell curve if you graph it (number of kernels popped vs. time). Some kernels pop early, some late, and some never blossom into popcorns at all. My girl friend and I agreed that the time to feel old is when the wedding bells of people we know (or used to know) from high school start to chime like kernels popping after one minute in the microwave (set on high).

On a totally different note, I by chance went to a tea party hosted by ROCSAUT (Taiwanese student association) one evening. Although I was originally from Taiwan, I have never participated in activities organized by such campus' groups. I don't know what possessed me to walk into a hall full of strangers so enthusiastically chatting. No, people were not wearing 10 pagers and carrying another 5 cell phones. And no, nobody was draped in those Tamagochi thingys. It was wonderful how I could relate some little trivial aspects of life with these then-strangers and laugh. About the general perceptions inflicted on the so-called "fobs", and the truths and myths in these perceptions, about mothers being obsessed with daughters' weight, about books, childhood treats, etc. Indeed I had a lovely time.

My mother's eyes lit up when I mentioned my participation in the tea party. Her eyes sparkled when I mentioned a remotely masculine name (it might have been the name of a dish). I sighed. And laughed at the poor mother of a kernel who is happy being a kernel.

University of Toronto is a Bastion of Beauty

Why our campus beats the pants off of Queen's

John Michael
Victoria College

After two years at Queen's University in Kingston, I decided, as someone said at convocation during orientation, to "cast my lot" with U of T and Victoria College. For a university that's supposedly cold and impersonal, I actually find U of T a rather friendlier place. Perhaps it's the college system that breaks things down a bit, but even at places like Robarts Library, where one would think that nobody cares if you get lost in the stacks on the 13th floor, I find the staff quite helpful. Closer to home, Victoria's E.J. Pratt Library staff is said to be the most friendliest on campus. Although I have a little in the way of comparison, I can surely say that the staff is weirdly pleasant.

But beyond libraries, another set of people I'm enjoying are the students themselves. Now, you're probably wondering what kind of silly comment that is, so let me explain. When I told friends of mine at Queen's I was considering transferring over here, not only did they tell me that university staff are uncaring, but that U of T students are individualistic and academically oriented and have no time for anyone else outside their immediate family and/or social sphere. Also, the fact that many are commuting to and from school and/or have part-time jobs makes them even busier and more disconnected from their school, thus unlikely to care about the person sitting next to them in class or in line at the Registrar's Office.

Fortunately for me, I found the opposite. Most students I've met here have not been any worse (not that Queen's students are that bad) than those I met elsewhere. In fact, perhaps because U of T's size, students go out of their way to make friends and have someone to sit next to in class or eat with at the dining hall or cafeteria, so that they don't feel like just one lonely individual in a sea of unfamiliar faces.

Another thing that surprised me are the people I've met living in residence. The residence environment by its very nature, is a great place to meet friends, and despite the criticism I've heard about U of T I'm actually finding it easier to socialize here than at Queen's. At Queen's a lot of the time I felt as though I had to present myself in a certain way to be in with the "in" crowd. To be popular as *Saved By The Bell* would have it, is everything.

Here at U of T, there is no "in" crowd, no cliques, no stratification. Everyone hangs out with everyone else and it doesn't matter who you are or where you come from, or what you study. Not to say that Queen's was a perpetual episode of *Beverly Hills 90210*, but I did find that social grouping was more prevaleot there.

Perhaps this view comes from by bias that there is supposedly a "Queen's type", a stereotypical construction of the typical student that I feel doesn't apply to me. Or it could be that people at U of T are just more relaxed and easy going, which, despite my warnings of my Queen's friends I could only have discovered by coming here in the first place, which I'm glad I did.

Of course, school has only just begun, and by January I might not care how friendly people are, because I'll be too busy trying to keep from slipping on the ice, while darting across Queen's Park in a bee-line in time for my eleven o'clock class. Or perhaps everyone else will be too stressed out to be friendly and I'll think everyone was just making nice, for Frosh Week.

But while I still have the chance to stop and smell the roses, I'd like to say, so far, I think that at U of T, they smell pretty good.

NOTICE OF
ANNUAL GENERAL MEETING (AGM)

The University of Toronto Engineering Society Annual General Meeting
will take place on

Wednesday October 28th, 1998

at 5:15pm in MS2158 (MedSci Auditorium).

AGENDA

Adoption of Financial Statements for year ended May 31st, 1998
Adoption of Auditor for year ending May 31st, 1999
Adoption of Budget for fiscal year ending May 31st, 1999
Amendments to the Constitution

All full-time undergraduate students are eligible to vote. Please plan to attend.

Professor Profiles

Stephen Brown

Vera Kan
CIV 9T9 + PEY

When sending out a request for an interview, I noted that professors are a busy crowd. So when Professor Steve Brown agreed to be interviewed for this feature in the Cannon, Karen and I greeted his email reply with a mental sigh of relief. Recommended to us by a third year student who had found him engaging and dynamic in the classroom setting, we discovered Professor Brown had more than just a flair for lecturing a hundred second-year electrical engineering students. He also is a gifted researcher, whose doctoral thesis won him the NSERC doctoral prize in 1992, of which only two are given each year, one to science, one to engineering.

Prof. Brown is juggling a wide range of responsibilities, including co-authoring a textbook with Prof. Zvonko Vranesic (the chair of the division of engineering science), conducting research, while squeezing in some family time with his wife and 3 ½ year old son. One Friday afternoon, Karen and I sat down with Professor Brown for an hour to discuss his textbook, his job, his choice of career and how he balances his career with his private life.

ON HIS TEXTBOOK:

The textbook is clearly the biggest thing on Prof. Brown's mind these days. This textbook is for an introductory course in digital circuits, something that is taught in every university with a department of electrical engineering. He and Prof. Vranesic decided to embark on this particular venture when they could not find a good textbook that included modern software approaches while teaching classical theories. To support the modern software approach, Professor Brown negotiated with Altera Technologies Inc. for their software. He was able to get the software, worth $5000, packaged with every textbook for *free*. (This textbook is already looking as to become very popular with students!)

It is a venture that holds great promise. If 10 000 out of 50 000 potential buyers pick up a copy each year, the textbook will be considered a success. To give a sense of that potential, *Computer Organization* by Professor Vranesic has sold a ¼ million copies since its release. *Microelectronic Circuits* by Professor Adel Sedra (currently provost of the university) and published by the Oxford University Press, is second only to the Bible in sales for this publishing house.

That said, it is neither dollar signs nor the thrill of being a best-selling author that motivates Professor Brown in writing this textbook. He enjoys teaching, and writing a teaching textbook is an extension of that activity. The work has been arduous, however. For example, it has been extremely tough to explain concepts to the reader in a clear manner, so that the reader will immediately understand. Unlike in a lecture, readers cannot ask the author for further clarification!

Over the past 18 months Prof. Brown has put in 1500 hours planning, writing and revising the textbook with Prof. Vranesic. After putting his son to bed at 11:00 pm he will work on the textbook until 4:00 am., some truly crazy hours. The preoccupation with details has led Prof. Brown to walk into telephone poles, forgetting groceries at the store, and forgetting to take out a can of pop from a vending machine. Prof Brown related an anecdote that went something like this:

If you thought high school was tough, with a few hours of homework a day, you were shocked when you got to university and found yourself swimming in problem sets. Then in graduate school, the artsie-like schedule was just a cover for the fact that you would work even harder than in your undergraduate years. Finally, you wiped the sweat off your brow when you got a Ph.D and figured that the professorial years would, while productive, never be as intense as grad school. This of course was untrue, but you never would have thought that *writing a textbook* would top *everything* where hard work was concerned!

I figure there will be a huge sigh of relief from the offices of SF 2001 when that textbook makes its way into classrooms for September 1999.

ON BECOMING A PROFESSOR:

Prof. Brown is a young professor, having only received tenure in the last six months. Because it is not inconceivable that some of the students of today will find themselves in Prof. Brown's shoes ten to fifteen years from now, we quizzed him on how he became a professor.

"The greatest thing about being a prof is that no one checks up on your hours, and you often choose the projects you wish to pursue rather than have them dictated to you."

Doing something fulfilling and useful in his career was always a big consideration, but in his high school and early undergraduate years Prof. Brown did not ever think about becoming a professor. At the University of New Brunswick (UNB) he was taught by Professor Robert Cavanagh who had done some research work at U of T. Prof. Brown related the fact that people coming from smaller universities, especially those based in smaller cities and towns, frequently view large universities like U of T to be monstrously large behemoths where one can get lost. Encouraged by Professor Cavanagh, however, Prof. Brown moved to Toronto (knowing no one in the city,) rented an apartment, and supported himself during the first summer by working at IBM. He would complete his M.A.Sc and his Ph.D at U of T.

Professor Rose was also a supervisor during the graduate years and taught Prof. Brown how to apply scientific methodology to graduate-level research. This was especially important because there can be a significant difference between merely learning and weakly applying the scientific methodology in the undergrad years, and applying it more fully in graduate research. What Prof. Brown really appreciates about research is that you choose what you wish to work on, and you can never be bored when you are wrapping your mind around a very complicated problem!

Prof. Vranesic however, was credited for being a major role model and influenced Prof. Brown towards a career as a university researcher and lecturer. Even today Prof. Brown maintains a close working relationship with Prof. Vranesic, as evidenced by their joint efforts in the textbook. It is rare to have a co-editor who is willing to honestly criticize your work, and it is just as rare to have a co-editor who can take such criticism without taking it personally. On both counts, Prof. Brown concurs he was lucky to have found a solid partnership with Prof. Vranesic.

ON CHOOSING THE UNIVERSITY OVER INDUSTRY:

When lucrative opportunities for electrical engineers (especially those with higher degrees) are sprouting up like weeds, few would choose to mentally tax themselves in as a university professor. Prof. Brown chose to become a professor though, because education is important to him. He also wanted to be say that he did something useful and fulfilling, and being a professor would satisfy these requirements. The greatest thing about being a prof is that no one checks up on your hours, and you often choose the projects you wish to pursue rather than have them dictated to you.

Less desirable is the fact that you can never forget your job, as the problems and projects you work on constantly occupy your mind. Unlike most other people, Prof. Brown finds that you can't leave your work at the office and come home clean. A lower salary than what industry would offer is another tradeoff. Finally, the first five or six years as an assistant professor are very intense because one must publish a great deal of high quality work to win a tenured position. While getting tenure hasn't changed the way Prof. Brown looks at his work, it is a momentous point in one's career, and *not* getting it is be a bitter experience.

Still, being in industry is a valuable experience as to be effective in research you must learn the practical side of engineering as well. Prof. Brown will go on sabbatical next year, and will spend a year with Altera (the company with whom he had negotiated a software deal for his textbook) in San Jose, California.

ON TEACHING:

Prof. Brown genuinely *likes* to teach. He really enjoys explaining clear fundamental concepts to students. He prefers larger classes to smaller ones ("more bang for the preparation time") and will frequently inject some levity keep classes interesting. On the day we

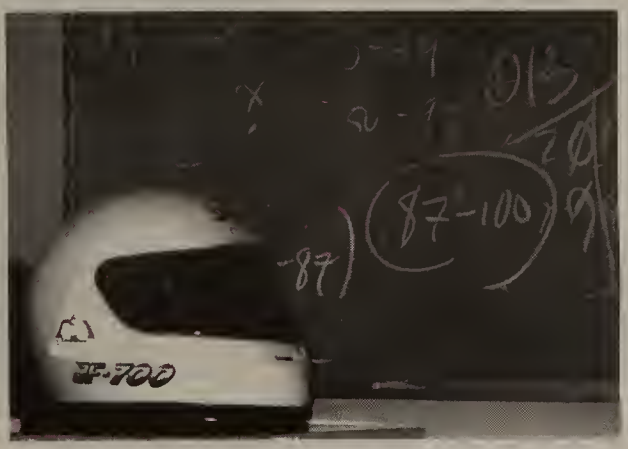
interviewed him, Prof. Brown returned to his office bearing a jacket he had previously found in a lab. He explained that he had held up the jacket, announced it to the class, and acceded to a student request to put it on so that others might see it better. He struck a few poses, got a few laughs, an attentive student audience during the lecture, (but no takers appeared for the jacket.)

On questioning him on disruptive or noisy classes, Prof. Brown replied that inattentive classes were a reflection on his teaching ability. Recalling those lectures where even he failed to pay full attention, Prof. Brown has done his best not to mimic the poor performance of his less exciting teachers. It seems to be working, judging from the four teaching awards he has won since he began to lecture.

ON KEEPING A BALANCE WITH HIS CAREER AND HIS FAMILY

This is a topic that will occupy many students in the next five to fifteen years, and we wanted to know how Prof. Brown does it. His wife is a U of T civil engineering grad, working in a top technical position at the Ministry of Transportation and in charge of a multi-million dollar budget. His son is 3 1/2 years old.

Prof. Brown likes to relate the story of the night of his son's birth. He drove his wife to the hospital in sweats, some of it stained with cheesecake, and slept on the floor of the hospital. The next morning he arrived for his 11:00 am class looking as rumpled as he could be. Saying nothing, he merely wrote on the board "IT'S A BOY, 8LBS. 20 OZ" to a standing ovation from his students. He still remembers the warmth of that class.



Admittedly, having children really changes your life-considerations like the lack of babysitters will come into play. He seems to handle it skillfully, for spending time with his wife and son are very important to him. He makes a point to spend time playing with his son from the time he is home until the time his son is put to bed, rather than writing his textbook during his son's waking hours. (Hopefully his life at home will return to some semblance of normalcy when the textbook is complete.)

HIS MOTORCYCLE

A fun, cheap, but dangerous form of transportation. Evidenced by a helmet (and what we thought was a biker jacket) in his office. After the interview, Karen and I looked for his motorcycle but were unsure if we had identified the correct one. He prefers it to the TTC, as it can get him to work in fifteen minutes rather than the 45 it would take by transit.

Engineering Society's 1998-1999 Proposed Budget

Acct #	Account name	Proposed Budget 97 - 98	Proposed Budget 1998-1999
Registered Students		2600	2700
REVENUE			
B05	Fees	$159,601.00	$166,500.90
B10	Interest on Invest	$500.00	$0.00
B15	Locker rentals	$5,500.00	$6,000.00
B20	Miscellaneous income	$2,500.00	$3,500.00
B25	Alumni donations	$30,000.00	$30,000.00
TOTAL		$198,101.00	$206,000.90
GENERAL			
C05	Gifts & Awards	$1,000.00	$1,200.00
C10	Donations	$200.00	$200.00
C15	Miscellaneous	$1,500.00	$1,500.00
C20/5	Office Salaries	$33,000.00	$35,000.00
C30	Council & Exec Exp	$4,000.00	$4,000.00
C35	Printing & supplies	$10,000.00	$12,000.00
C40	Telephone	$2,500.00	$1,500.00
C45	Postage	$400.00	$400.00
C50	Bank charges	$800.00	$800.00
C55	Audit & legal fees	$4,000.00	$4,000.00
C60	Depreciation	$5,000.00	$5,000.00
C61	Loss on disposal of assets	$0.00	$0.00
C65	Repair & Upkeep	$4,000.00	$4,000.00
C70	Insurance	$2,000.00	$2,000.00
C75	Bad debt expense	$0.00	$0.00
C80	Computer expense	$1,000.00	$1,000.00
C90	Elections	$300.00	$500.00
C100	Revenue copier	$0.00	$800.00
Subtotal		$69,700.00	$73,900.00
COMMUNICATIONS			
D05a/b/c	Frosh handbook	$0.00	($5,000.00)
D10a/b/c	Yearbook	($4,000.00)	($2,000.00)
D20	Darkroom	$1,000.00	$1,000.00
D25a/b/c	Toike Oike	$2,500.00	$2,500.00
D30a/b/c	Cannon	$4,000.00	$5,000.00
D35	General	$300.00	$300.00
Subtotal		$3,800.00	$1,800.00
PROF. DEVELOPMENT			
E05	General	$500.00	$2,100.00
E10	CCES	$4,500.00	$4,200.00
E15	PEO	$1,000.00	$700.00
E20	RESSA	$0.00	$0.00
E25	ESSCO	$1,400.00	$1,400.00
E30	OESP/WISE/EPDC	$1,300.00	$1,000.00
E50	ESSCO Operating	$0.00	$500.00
E60	PEO Operating		$300.00
Subtotal		$8,700.00	$10,200.00
SOCIAL			
F05	General	$250.00	$100.00
F10	Cannonball	$3,500.00	$3,600.00
F15	Road trips	$900.00	$500.00
F20	Oktoberfest	$0.00	$0.00
Subtotal		$4,650.00	$4,200.00
AFFILIATES			
G05	EAA	$0.00	$0.00
G10	Club grants	$8,500.00	$8,500.00
G15	Club aid	$900.00	$900.00
G20	PEY Club	$1,250.00	$1,000.00
G25	Debating Union	$0.00	$500.00
Subtotal		$10,650.00	$10,900.00
BLUE & GOLD			
H05	LGMB	$500.00	$500.00
H10	General	$500.00	$500.00
H15	Cannon Guard	$1,000.00	$1,000.00
H30	Homecoming	$2,000.00	$1,500.00
H35	Godiva Week	$1,500.00	$2,000.00
Subtotal		$5,500.00	$5,500.00
FOURTH YEAR			
J05	General	$200.00	$300.00
J10	Gradball	$8,000.00	$7,000.00
J15	Kipling Ritual	$6,000.00	$6,000.00
J20	Awards	$200.00	$200.00
Subtotal		$14,400.00	$13,500.00
GENERAL COMMITTEES			
K05e	Eng Employment Liaison	$65,000.00	$0.00
K05	Engineering Career Office	$200.00	$67,500.00
K05	Employment		$200.00
K15	High School Liaison	$300.00	$200.00
K20	Women's Issues	$400.00	$500.00
K25	First Year	$400.00	$500.00
K30	Orientation Expense	$2,000.00	$2,000.00
K31	Orientation revenue	$0.00	$0.00
K35	SkuleTM Nite	$3,000.00	$3,000.00
K45	OEC	$800.00	$800.00
K55	SUDS Expense	$1,000.00	$1,000.00
K56	SUDS Revenue	$0.00	$0.00
K60/1	Special Projects	$7,500.00	$10,000.00
K70	Science Outreach	$100.00	$100.00
Subtotal		$80,700.00	$85,800.00
TOTAL-	Committees	$128,400.00	$131,900.00
TOTAL-	General	$69,700.00	$73,900.00
GRAND TOTAL		$198,100.00	$205,800.00
GRAND TOTAL-	REVENUE	$198,101.00	$206,000.90
Excess of Revenue over Exp		$1.00	$200.90

Club Reports

Chem Club

Katherine Wong
CHEM 9T9

Wow, it's October already? Time flies when you're cramming for midterms.

Yes, the evil midterms are just around the corner, just waiting and hoping for that unsuspecting, unprepared student to cross their path. I'm sure this does not apply to any Chemical Engineering ndergraduates. Last month was incredibly hectic and interesting. The Chem Club hosted a smoker/bookswap/movie night, volleyball toumament and held elections! Due to many unforeseen circumstances, we've had to say goodbye to two valuable executive members, Carl Spenscieri and Miguel Lopez. These two guys are enjoying their days with a little PEY and a lot of extra bucks. Although we miss them, all is not lost. Our new members are sure to carry on the same spirit, dedication and wisdom for us. On behalf of the Chem Club Executive Council, I would like to welcome Nader Bayani (Chair), Chris Ho (Vice Chair-Internal) and Andy Choi (Sports Director) to our team. These positions were appointed by our council by a unanimous Executive Council Vote. In addition, elections were held September 21st - 23rd. As a result, by the time you read this we will also have two new Second Year Class representatives and a Treasurer.

This month, we will be holding another famous smoker on October 28th at 5pm in the Chem. Common Room. There will be wings, drinks, pizza and a movie. By far the most exciting thing happening this month (besides midterms of course) will be the "Klenzoid" Smoker held on October 15th, 1998 in GB202 from 5-7pm. Klenzoid is looking for Fourth Year Chemical and Mechanical Engineers to fill several positions in their company. So if you are interested, don't forget to bring a resume. We are also pleased to announce that we have purchased a new phone. So from now on the only annoying pulse you'll hear in the room will be yours! Please continue to check the Common Room every Thursday to find out what else might be going on. For example, Plant Tours, Conferences and Faculty Dinners. I hope to see you all at the next smoker!

Mech Club

Shirlie Ho
MECH 0T0

After a slow start, we are now caught up in planning the social events for the year. For all you mech f!rosh, check out the mech common room in that bridge between the Mining building and the Mechanical building. (Tip: go through the front doors of Mining, up those stairs to the second floor, through the doors, turn left keep on walking and eventually you will reach the domain our common room. Also there's our tutorial room nearby, for those times you need a huge table and a nice view of SF.) In the common room, you can find comfy couches, a Pool table (only $1.00 a game!!!), a Gits table (ya know - that soccer thingy!) and of course, cheap pop. We've begun planning the Mech/Indy Semi-Formal, which will take place in November. This month keep an eye out for our BBQ with yummy food and pop. There will be a joint Chem/Mech smoker in the Chem common room on October 15. That's it for now!

ECE Club

Cristhian
Comp 0T0

Hi everyone! Hope these first couple of weeks haven't been too rough on you, and that you've all passed your first quiz... um, never mind. Anyway, as I mentioned in last month's article, the ECE common room is getting a face-lift and to celebrate we're having a smoker in the near future, so keep your eyes peeled for more information.

Also, the ECE Dinner-Dance is coming up in November. Your social rep's have done the wonderful job of booking the Colony Plaza Hotel. Ticket prices and availability will be made known to you at a later time. I recommend it to all of you. It's your chance to meet professors from our faculty (and watch them get drunk...heh heh), and also to get together with other students in ECE. F!rosh, don't be shy! Your friends from MECH, CHEM, etc. are also welcome! There will be plenty of food and BEvERages for everyone.

Lastly, the 3rd year Ottawa trip will be from January 7th - 11th so keep those days free, because we're going to party like it's 1999 (man, that was cheezy...) Besides partying, we are going to meet up with some of the best companies Ottawa has to offer (bring your résumés). Kanchana and Shivanthini (your class reps) also have many other cool events planned including a visit to a casino. This is also an excellent chance to bond with your fellow 3rd years and make some new friends. With that thought, I'll sign off and let you guys decide. Until next time...

MMS Club

David Elsner
MMS 9T9

Skule is entering its second month and so far, everything is pointing towards a great year ahead.

I would like to take this opportunity to introduce the 98/99 MMS club exec:

Club Chair - David Elsner (Me)
Secretary/Treasurer - Mark Laurin
Vice Chair - John Kratochwil
Industrial Liaison Officer - Jim Pulickeel
Festivities Manager - Andy Martins

We can thank Andy for the excellent first MMS smoker. It was a great success, with a good turnout of people. We're hopping to have an even better turnout for the next ones. A lot of F!rosh attended, but there were still a lot who didn't. All MMS F!rosh are welcome, so I hope to see more at the next smoker. For those of you that didn't attend - well, all I can say is that you're part of a rumour that you're bound to hear about any day now. (You were warned)

There are a number of things planned for MMS this month. The third and forth years are going to Montreal for the annual field trip. (For those MMS that aren't going and will still be in class, well, sucks to be you.") Don't worry, there's always next year. There will also be some professional sponsored smokers. (READ: Cheap and free stuff.)

Hopefully by now, most of you are starting to understand what it means to be a part of MMS. If not, you'll realize it real soon - tests are just around the corner.

Good luck to everyone. And remember, the MMS common room is there for you to enjoy - use it to its full potential.

EngSci Club

Becky Smith
9T8+PEY

ASTRA LOOKS LIKE A STAR AT THE ENG. SCI. SMOKER

The Engineering Science common room was packed with students for the first smoker of the year, on Wednesday September 16. Books were swapped, beverages were downed, and snacks were eaten. Said one young F!rosh, "Wow, this pizza's great! Can we do this again next week?" Much to the surprise of the Club Exec, most of the incoming F!rosh were able to fit into the common room.

Other distinguished attendees of the smoker were there to represent the Biomedical-Chem field. Ritesh Shah (Chem 9T5), a representative from Astra Pharma Inc. was on hand to talk about the production company, answer questions, and collect resumes. Professors from the field, Dr. M. Sefton, Dr. Y. L. Cheng, and Dr. Yip, were also available to discuss research opportunities. Students found the session to be informative and interesting.

The gathering at the smoker also provided a great opportunity for people to get to know their future teammates. The Engineering Science.

Athletic Nights have begun. Last Friday signalled the start of the weekly program with an Ultimate Frisbee game on front campus. They we're laid-out all night!!!

Further news on the Engineering Science front show that election results are in for the club's class reps. More details on that issue to follow.

PEY & CAREERS

Employment Opportunities for 1999 Graduates

Notes:
All of these positions are advertised in the Graduating Student's Employment Service (GSES) at the Career Centre (Koffler Student Services Building, 214 College Street).

All deadlines are at 12:00pm, noon, usually on Wednesdays.

In order to apply for these opportunities, you must be registered with the GSES.

These are a sample of the many opportunities advertised in the GSES. Please visit the Career Centre or our website at: www.careers.utoronto.ca for more details.

Upcoming Application Deadlines for Graduating Students

Organization	Position(s)	Deadline
Ernst & Young	Staff Accountant	Oct 5
American Management Systems	Various – IT Consultants	Oct 7
Andersen Consulting	Various – Analysts	Oct 7
ATI Technologies Inc.	Various	Oct 7
Bunting Wargurg Inc.	Analyst and Associates	Oct 7
First Marathon Securities	Analyst	Oct 7
GE Canada	Various Electrical Positions	Oct 7
Goldman, Sachs & Co.	New Associate Program	Oct 7
IBM Canada Ltd.	Various	Oct 7
Manulife Financial	Various Analysts, etc.	Oct 7
Michelin North America (Canada)	Entry Level Engineer	Oct 7
Monitor Company	Consultant	Oct 7
Morgan Stanley Dean Witter	Analysts	Oct 7
Ontario Teacher's Pension Plan Board	Various	Oct 7
Progressive Companies	Claims Representative Trainee	Oct 7
Richter Systems International	Systems Developer/Business Analyst	Oct 7
Sapient Corporation	Unknown	Oct 7
Toromont Cat	Unknown	Oct 7
Toronto Dominion Bank	Various	Oct 7
Trilogy Development Group	Various	Oct 7
Tyco Submarine Systems Ltd.	Various Technical opportunities	Oct 7
Watson Wyatt Worldwide	Unknown	Oct 7
Xilinx Inc.	Unknown	Oct 7

www.careers.utoronto.ca

Skule™ Nite 9T9

AUDITIONS

OCT. 1, 2, 5, 6, 7
SF1013
6-9 pm

Always wanted to be involved in a theatre production but never tried? Been in stage shows before and want to be part of the funniest, wackiest show seen on campus, not to mention the ONLY engineering theatre production in Canada? Then Skule Nite's for you!

Auditions and sign ups are now open for crew, cast and production.

As a crew member, you get to paint stuff and build stuff, like dinosaurs that eat professors, jet planes that fly across the stage and working lightsabers, to name a few. You'll help build the sets and props for the show. No experience needed... we'll teach you how! And if you help out a lot, you get to be part of the Stage Crew during show nights!

Cast members are definitely wanted. Can you sing, act or dance? or do something really freaky? or just be funny? We'd love to have you on stage. Auditions are divided into singing, dancing and acting... but you don't have to be good in all three. No experience required.

As part of production, you get to help organize events to promote Skule Nite once the show dates get closer. We also need help in putting up posters and simply spreading the word that, hey, Skule Nite's the funniest show on campus! Getting sponsorships and raising money for the show is another thing you can be involved in as well... yes, that's Russell Oliver trying to sell a Faberge egg to a Skule Nite impersonator in one of our sketches last year.

Audition and sign up dates are from October 1, 2, 5, 6, 7 at Room 1013 of the Sandford Fleming Bldg., U of T, St. George campus. We'll be there from 6 to 9 p.m. and you can come anytime in between. Signing up for crew or production just takes a sec, but the auditions for cast will take a bit more time than that.

Check out our web page or send email to skulenite@skule.ca for more details.

We hope to see you there!

www.skulenite.skule.ca